

## PATENT ABSTRACTS OF JAPAN

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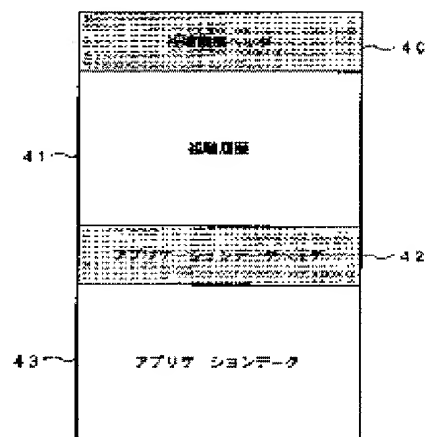
NOGI AKIKO

## (54) PAY BROADCAST SYSTEM AND BROADCAST RECEPTION TERMINAL EQUIPMENT

## (57)Abstract:

PROBLEM TO BE SOLVED: To realize various services by allowing a pay broadcast system to up-link application data together with view history information.

SOLUTION: View history information to impose charging on viewers is stored in an area 41 of transmission data and sent periodically to a transmitter side via a telephone line or the like. In the case that application data are generated by the user, the data are stored in an area 43 so as to set data denoting the presence of the application data to an area 42. When the area 42 at a reception terminal equipment is set with data denoting the presence of the application data in the area 43, the data are sent to the transmitter side independently of a periodic timing. Since the data in response to the application are stored in the area 43, various services such as TV shopping or mail distribution are realized.



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CLAIMS

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[Claim(s)]

[Claim 1] The transmitting system for broadcasting a program by the sending signal to which the scramble was applied by the predetermined approach in the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis, The broadcast accepting station which receives the above-mentioned broadcast and solves the above-mentioned scramble by the predetermined approach, It has a transmission means to transmit viewing-and-listening hysteresis information from the above-mentioned broadcast accepting station to the above-mentioned transmitting system. The charged broadcast system characterized by supposing that it is possible to transmit application datas other than the above-mentioned viewing-and-listening hysteresis information generated with predetermined application software with the above-mentioned transmission means.

[Claim 2] In the broadcast accepting station used by the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis A transmission means to transmit information to a transmitting system, and a viewing-and-listening hysteresis acquisition means to acquire viewing-and-listening hysteresis information based on the result of having viewed and listened to a program, The input means which inputs the application data generated with predetermined application software, It has a storage means by which the header information which shows whether the above-mentioned viewing-and-listening hysteresis information, the above-mentioned application data, and this application data are memorized is memorized. When the above-mentioned header information is not made into the condition that the above-mentioned application data shows what is memorized by the above-mentioned storage means If the above-mentioned viewing-and-listening hysteresis information is periodically transmitted to the above-mentioned transmitting system and the above-mentioned header information is made into the condition that the above-mentioned application data shows what is memorized by the above-mentioned storage means The broadcast accepting station characterized by transmitting the above-mentioned application data to the above-mentioned transmitting system at any time.

[Claim 3] The application data transmitted to the above-mentioned transmitting system in a charged transmitting system according to claim 1 or 2 or a broadcast accepting station is the charged transmitting system or broadcast accepting station characterized by being the data relevant to the program broadcast, or data which becomes independent.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the broadcast accepting station used in a charged broadcast system which uplinks viewing-and-listening information from a receiving side to a transmitting side, and this charged broadcast system.

[0002]

[Description of the Prior Art] According to viewing and listening of a program, it charges to current and the viewer who contracted, and charged broadcast which does not make it view and listen to a program is being put in practical use in addition to a contractor. For example, one circuit is the digital broadcast made five-channel multiplex, and simultaneous broadcasting of the many channels of 50 channels of this charged broadcast is made possible by installing ten repeaters called the transponder which relays this one channel, for example.

[0003] The broadcasting format called scramble broadcast is used in such charged broadcast. This scramble broadcast prevents from using a normal image, voice, and data by disturbing the HARASHIN number based on a predetermined approach at the time of transmission to a broadcasting station side, even if persons other than the contractor who made a contract of reception of a broadcasting station and a program receive this broadcast. On the other hand to a contractor, the key which solves this scramble beforehand from a broadcasting station side is given, and use of a normal image, voice, and data of a contractor is enabled by restoring the HARASHIN number disturbed by the scramble using this key. The key for solving this scramble is offered as a decoder prepared between the antenna of a receiving side, and a receiver.

[0004] It divides roughly into the contract type of such charged broadcast, and there are a format called the flat which exchanges contracts per channel, and a format called the pay-per-view charged according to viewing and listening of a program in it. When accounting is considered as deferred payment in the contract type by pay-per-view, in order to charge correctly among these, exact transmission of the viewing-and-listening information over transmitting sides, such as a broadcasting station, is made indispensable.

[0005] A dial-up line is used for transmission of this viewing-and-listening information. That is, the telephone line is connected to an above-mentioned decoder, and it enables it to equip this decoder with the IC card which can memorize viewing-and-listening information. The frequency as which the viewer regarded the program using this decoder is memorized as the point, and this point is accumulated by this IC card whenever it views and listens to a program using this decoder. A viewer chooses the program which wants to equip [ program ] a decoder with this IC card and to see it by operating this decoder.

[0006] And it is uplinked by transmitting once the point accumulated to the IC card according to viewing and listening of a program to a transmitting side through the telephone line at a predetermined period, for example, January. Based on this uplinked viewing-and-listening information, accounting is made from a transmitting side to a viewer. Thus, in the system of charged broadcast, the timing of an up link of the viewing-and-listening information on this transmitting side is also the opportunity of transmission of the data from a receiving side to a transmitting side.

[0007]

[Problem(s) to be Solved by the Invention] However, a viewer views and listens to charged broadcast in this way, and he was not trying to be transmitted in the former from a receiving side to a transmitting side in a charged broadcast system which uplinks the viewing-and-listening hysteresis information which it is as a result to a transmitting side in data other than the viewing-and-listening information for such accounting. For example, the application data which can realize a certain service made when an addressee side transmits was not transmitted to a transmitting side from a receiving side.

[0008] Therefore, the purpose of this invention is to offer the broadcast accepting station used in the charged broadcast system which can be transmitted to a transmitting side, and this charged broadcast system in an application data while a viewer views and listens to charged broadcast and it uplinks the viewing-and-listening hysteresis information which it is as a result to a transmitting side.

[0009]

[Means for Solving the Problem] The transmitting system for broadcasting a program by the sending signal to which the scramble was applied by the predetermined approach, in order that this invention may solve the technical problem mentioned above, It has the broadcast accepting station which receives broadcast and solves a scramble by the predetermined approach, and a transmission means to transmit viewing-and-listening hysteresis information from a broadcast accepting station to a transmitting system. It is the charged broadcast system characterized by supposing that it is possible to transmit application datas other than the viewing-and-listening hysteresis information generated with predetermined application software with a transmission means.

[0010] Moreover, a transmission means to transmit information to a transmitting system in order that this invention may solve the technical problem mentioned above, A viewing-and-listening hysteresis acquisition means to acquire viewing-and-listening hysteresis information based on the result of having viewed and listened to a program, The input means which inputs the application data generated with predetermined application software, It has a storage means by which the header information which shows whether viewing-and-listening hysteresis information, the application data, and this application data are memorized is memorized. When header information is not made into the condition that an application data shows what is memorized by the storage means It is the broadcast accepting station characterized by transmitting viewing-and-listening hysteresis information to a transmitting system periodically, and transmitting an application data to a transmitting system at any time if header information is made into the condition that an application data shows what memorized by the storage means.

[0011] Since this invention can transmit the application data based on predetermined application software from a broadcast accepting station besides viewing-and-listening hysteresis information to a transmitting system as mentioned above, it can carry out service based on application software to a receiving side in a transmitting side.

[0012]

[Embodiment of the Invention] Hereafter, one gestalt of implementation of this invention is explained, referring to a drawing. Drawing 1 shows an example of a transmitting system applicable to the charged broadcast system by this invention. In addition, in this invention, since transmission of the application data accompanying the up link of the viewing-and-listening information from an addressee side is the theme, in a transmitting system, the part about viewing-and-listening control is shown mainly, and it omits about the part about a transmission control called the modulator and power amplification in other parts, for example, transmitting system.

[0013] The video signal and sound signal for broadcast which are supplied from broadcast studio (not shown) etc. are digitized and compressed in an encoder 1. This encoder 1 is controlled by the control signal 14 supplied from the program control system 5 according to the program to send out. Although not illustrated, in transmitting sides, such as a broadcasting station, two or more sets of this encoder 1 are installed. From each of the encoder 1 of these two or more bases, a compression digital signal output is supplied to the multiplexing machine 2. Moreover,

the control information of the individual information 15 and the common information 16 which are mentioned later is supplied to the multiplexing machine 2 with it corresponding to the compression digital signal supplied from two or more sets of encoders 1. In the multiplexing machine 2, Time Division Multiplexing of such signals and control information which were supplied is carried out, and they are made into the digital signal 11 of one channel.

[0014] Scramble processing is performed with the scramble key 13 which this digital signal 11 is supplied to a scrambler 3, and is supplied to this scrambler 3 both. Through the transmission-control section which is not illustrated, to transmission routes, such as a broadcasting electric-wave and a transmission medium, the signal to which scramble processing was performed is made into a sending signal, and is sent out.

[0015] The scramble processing in a scrambler 3 is made by adding the bit string of the predetermined die length generated based on the scramble key 13 to a digital signal 11. Although the individual information 15 and the common information 16 are included in the digital signal supplied to this scrambler 3 as mentioned above, to such control information, a scrambler 3 is usually controlled not to perform scramble processing.

[0016] By the way, in such a charged broadcast system, a peculiar individual key is given to the broadcast accepting station which each user who is the contractor of this charged broadcast system owns, respectively. That is, although mentioned later, the signal by which scramble processing was carried out in the transmitting side is decrypted by descrambling based on this individual key in a receiving side. In the transmitting side, the individual key for all broadcast accepting stations is memorized by the scramble control system 6.

[0017] The information on a channel or a program that the user for example, according to individual is making a contract of viewing and listening is included, and the individual information 15 is sent to the broadcast accepting station according to individual. Moreover, you may make it include the information based on the application data which was uplinked through the dial-up line from the broadcast accepting station, and was supplied to viewing-and-listening information gathering processing System 7 mentioned later in this individual information 15. The common information 16 is the information which accompanies a program, and is a signal sent to a program addressee in common. Program information 17, such as a program number generated in the program control system 5, is made into a part of common information 16 by related information sending-out equipment 4, and as mentioned above, it is supplied to the multiplexing machine 2.

[0018] The work-piece key 18 is supplied from the scramble control system 6 to related information sending-out equipment 4. In this related information sending-out equipment 4, the scramble key 13 is enciphered based on the work-piece key 18. This enciphered scramble key 13 is made into a part of common information 16, and is supplied to the multiplexing machine 2. It is enciphered by the individual key of a proper with the scramble control system 6 at each broadcast accepting station, and the work-piece key 18 is made into a part of individual information 15, and is supplied to the multiplexing machine 2.

[0019] The information from viewers, such as a contract demand, is supplied and uplinked from each broadcast accepting station to the viewer information processing system 7, for example through a dial-up line. In the viewer information processing system 7, predetermined processing is performed to the information from this uplinked viewer, and it considers as the contract information 19. This contract information 19 is supplied to the scramble control system 6. In the scramble control system 6, based on this contract information 19, control of the scramble key 13 and the common information 16 is performed, and the transmission control to each user is made.

[0020] Drawing 2 shows an example of the configuration of a broadcast accepting station applicable to the charged broadcast system by this invention. Also in this drawing, modulators, the error correcting code-ized sections, etc. other than the part about viewing-and-listening control are omitted like above-mentioned drawing 1. In this example, this broadcast accepting station consists of a set top box 20 (it is a part for decoding the received signal so that it can display on a television monitor, and usually installed in right above [ of a television monitor ] etc.), and the security module 21 which performs authentication to a user etc. and carries out viewing-and-listening control.

[0021] The sending signal sent out from the transmitting system is supplied to the demultiplexer 23 in a set top box 20 through a transmission line. As mentioned above, in the multiplexing machine 2, Time Division Multiplexing of two or more control information which outputs and corresponds from the encoder 1 installed two or more sets in the transmitting side is carried out, and this sending signal is transmitted. In this demultiplexer 23, this sending signal by which Time Division Multiplexing was carried out is separated for every channel.

[0022] By the way, a user can choose a receiving channel by operating the actuation means (not shown) formed in this set top box 20. That is, the thing of the channel which a demultiplexer 23 is controlled by this actuation and corresponds from the digital signal and control information (common information / individual information) which were separated is chosen and outputted. Furthermore, in this demultiplexer 23, this signal separated for every channel is divided into the control information which consists of the digital signal, the above-mentioned common information, and individual information which are a program.

[0023] The digital signal 30, and the common information / individual information 31 outputted from the demultiplexer 23 is supplied to the community / individual information analysis equipment 27 in a descrambler 24 and the security module 21, respectively. In community / individual information analysis equipment 27, the supplied common information / individual information 31 are analyzed. Control of the descrambling control unit 28 is made based on this analyzed information.

[0024] As mentioned above, this broadcast accepting station has an individual key according to an individual. This individual key is given to the interior from a broadcasting station side to a user with an IC card with memory etc. based on the contents of a contract. This individual key is read by the IC card reading part which this broadcast accepting station does not illustrate.

[0025] The work-piece key with which the control by the descrambling control unit 28 is included in individual information based on this individual key, for example is decrypted. Furthermore, the scramble key contained in common information based on this decrypted work-piece key is decrypted, this decrypted scramble key is made into the viewing-and-listening control information 32, a descrambler 24 is supplied, and a decryption of a digital signal 30 is made. Since a decryption of a scramble key is made with the work-piece key enciphered based on individual information in the transmitting side, viewing-and-listening control is made so that he can watch only the channel and program with which the user made a contract of viewing and listening.

[0026] In this way, the digital signal decoded in the descrambler 24 is decoded so that a decoder 25 may be supplied and the video signal and sound signal which were digitized can display in a monitor, and it is outputted from this set top box 20.

[0027] On the other hand, based on the contract information included in individual information in the common information / individual information analyzed in community / individual information analysis equipment 27 when [ this contract ] it is a pay-per-view contract, the viewing-and-listening hysteresis information 34 is supplied to memory 29, and this supplied viewing-and-listening hysteresis information 34 is memorized. This viewing-and-listening hysteresis information 34 is accumulated in this memory 29, and is transmitted and uplinked to a transmitting system as viewing-and-listening information 33 by the modem 26 in a set top box 20 after fixed period (for example, for one month) progress through a dial-up line.

[0028] In addition, CPU36 and ROM37 are prepared in the security module 21, and control of actuation within these security modules 21, such as storage of the viewing-and-listening hysteresis information 34 to memory 29, is made by these from above-mentioned community / individual information analysis equipment 27. Moreover, various kinds of application software (it is hereafter written as application) for offering various services is stored in ROM37.

[0029] As opposed to the security module 21, the input unit 35 which consists of a keyboard is connected. You may make it prepare a still simpler display etc. in this input unit 35. A user can give directions from this input unit 35 to CPU36, and can perform application stored in ROM. Furthermore, a user can input information to an input unit 35 based on directions of this application, and this inputted information is memorized by memory 29 as an application data.

[0030] In addition, the display based on activation of application is made to the display prepared

in the input unit 35. Moreover, information can be displayed on the monitor connected to the set top box 20 based on delivery and this information from CPU36 to a decoder 25, for example.

[0031] Drawing 3 shows an example of a format of the viewing-and-listening information 33 uplinked. Sequentially from a head, the viewing-and-listening hysteresis header 40, the viewing-and-listening hysteresis information 41, the application header 42, and an application data 43 are arranged. These data are memorized by memory 29.

[0032] The viewing-and-listening hysteresis header 40 and the viewing-and-listening hysteresis information 41 are always included in this viewing-and-listening information 33 uplinked. The viewing-and-listening hysteresis information 34 accumulated in memory 29 is stored in the viewing-and-listening hysteresis information 41. The existence of the application data 43 in this viewing-and-listening information 33 is shown in the application-data header 42. As for an application data 43, for example, one record is made into 6 bytes.

[0033] The viewing-and-listening information 33 stored in memory 2 is always supervised by CPU36. And if the application-data header 42 is in the condition which shows existence of an application data 43 in this viewing-and-listening information 33, this viewing-and-listening information 33 will be immediately uplinked to a transmitting system. As mentioned above, this uplinked viewing-and-listening information 33 is transmitted to a transmitting-side system through a public line, and is supplied to viewing-and-listening information gathering processing System 7.

[0034] In viewing-and-listening information gathering processing System 7, predetermined processing and service are offered based on the contents of the application data 43 contained in this supplied viewing-and-listening information 33. Hereafter, some examples of this processing and service are explained.

[0035] A shopping function is explained as the 1st example. In a transmitting side, the program for shopping which introduces goods and explains the purchase approach is broadcast. In the case of this broadcast, to the common information 16, information on goods is \*\*\*\*(ed) and it is transmitted. When there are goods which want to watch and purchase this broadcast, a viewer operates a broadcast accepting station and performs application actuation of goods purchase.

[0036] When this actuation performs a predetermined key stroke etc. to an input unit 35, the application for the application of goods purchase beforehand stored in ROM37 is started. The actuation menu of this application etc. is displayed on the display prepared in the input unit 35, a monitor, etc. A user operates an input unit 35 according to this displayed menu, and makes a purchase application.

[0037] If application actuation of purchase is performed, this application information and the goods information transmitted from the transmitting side will be memorized to the field of the application data 43 in memory 29. It is made for the application header 42 to have it shown in coincidence that an application data 43 exists. Then, based on this application header 42, the viewing-and-listening information 33 is uplinked by processing of CPU36 through a modem 26.

[0038] This uplinked viewing-and-listening information 33 is supplied to the viewing-and-listening information gathering processing System 7 of a transmitting side. In this viewing-and-listening information gathering processing System 7, predetermined processing is performed based on the application data 43 in this supplied viewing-and-listening information 33. Thereby, purchase information is transmitted to the vender of goods.

[0039] An e-mail function is explained as the 2nd example. According to the charged broadcast system by this invention, a user can distribute e-mail to transmitting sides, such as other users and a broadcasting station, or a program provider.

[0040] A user starts the application for e-mail transmission like the example of above-mentioned shopping, and inputs information, the e-mail text, etc. of the partner who wants to transmit e-mail from an input unit 35. While this inputted information is stored in the field of the application data 43 in memory 29, it is made for the application header 42 to have it shown that an application data 43 exists. If this application header 42 is checked by CPU36, the viewing-and-listening information 33 will be transmitted and uplinked to a transmitting side.

[0041] This viewing-and-listening information 33 is supplied to the viewing-and-listening information gathering System 7 of a transmitting side, and the processing based on this uplinked

viewing-and-listening information 33 is made. For example, based on the partner information included in an application data 43, when partners are other users, it is transmitted with a program through a transmission line to the partner to whom the e-mail text included in this application data 43 corresponds. Since it is enciphered based on an individual key as mentioned above, this information transmitted can distribute e-mail only to a specific partner.

[0042] In addition, the mail to other users is not distributed directly in this way, but may be saved by the transmitting side. In this case, a user starts predetermined application in a broadcast accepting station, and uplinks the viewing-and-listening information 33 to a transmitting side by using directions of e-mail read-out as an application data 43. Then, based on this uplinked viewing-and-listening information 33, the mail saved is transmitted with a program.

[0043] Moreover, not only an alphabetic character but distribution of an image can be performed by storing the decoration frame, the illustration, etc. in ROM37 as a template beforehand, for example, and choosing a desired thing from this template with the input of the e-mail text in the case of this mail delivery.

[0044] The mail delivery point can also be made into a broadcasting station. In this case, a user can perform various information interchange of a claim, a request, an opinion, etc. between broadcasting stations.

[0045] Moreover, the mail delivery point can also be made into the provider of a program. In this case, a user performs a mail delivery to the provider of the program which is a predetermined approach and corresponds during reception of a program. Moreover, even if it is not [ program ] under televising, a mail delivery can be performed to the program provider by specifying a program provider by the predetermined approach. Thereby, various information interchange of the claim to a program provider, a request, an opinion, etc. can be performed.

[0046] Furthermore, information about the application to the prize currently made for example, in the program or its success-in-an-election result etc. can be exchanged by distributing e-mail to a program provider. moreover, a cook — it is supposed that it is possible to perform reservation, purchase, etc. of reservation of the restaurant introduced in the group etc., the application of the tour introduced in the travel program, the purchase of the betting ticket in a horse race program, and various tickets.

[0047] Moreover, in this e-mail function, the mail delivery to a user is not limited to a method of using a broadcasting electric-wave like above-mentioned explanation. For example, although e-mail is transmitted by the user from a user with an application data 43 to a transmitting side in the mail delivery to other users, mailing, delivery, etc. can be used to other users of a distribution place. Moreover, network communication, a telephone, facsimile, etc. can also be used. This is not restricted to the e-mail distribution to other users by the user, but can be applied also to the example of the e-mail distribution to a broadcasting station and the program provider from a user from an above-mentioned user. That is, answerback of the mail distributed from the user to the broadcasting station or the program provider in these cases is made with the above means.

[0048] Moreover, this service is applicable only also to the broadcast accompanied by an image, for example, a teletext etc.

[0049] As the 3rd example, the function of a broadcast accepting station of maintenance of remote \*\* is explained from a transmitting side. When an error occurs in the error 25 with a broadcast accepting station, for example, a decoder, the error message based on this generated error is made to memorize to the predetermined field of memory 29, and it is made to accumulate. If the number of this accumulated error message turns into more than fixed numbers or directions of maintenance are made from a user to a broadcast accepting station, while storing this accumulated error message in the field of an application data 43, it is shown that an application data 43 exists the application header 42.

[0050] The viewing-and-listening information 33 in which this error message was stored as an application data 43 is uplinked to a transmitting side. This uplinked viewing-and-listening information 33 is supplied to viewing-and-listening information gathering processing System 7. In viewing-and-listening information gathering processing System 7, the analysis of the condition of

a broadcast accepting station based on the error message contained in this viewing-and-listening information 33 is made. When fault is in the broadcast accepting station which transmitted this viewing-and-listening information 33, a command which corrects this fault in viewing-and-listening information gathering processing System 7 is published. This command is supplied to the scramble control system 6, is a predetermined approach, with is included to the individual information 15.

[0051] The individual information 15 containing this broadcast accepting-station correction command is transmitted through a transmission line with a program, and is supplied to a broadcast accepting station. In the demultiplexer 23 of a set top box 20, it dissociates with a digital signal 30 and common information / individual information 31 is supplied to community / individual information analysis equipment 27. As mentioned above, since it is enciphered by the broadcast accepting station with the individual key of a proper, this individual information 15 is decipherable only in the corresponding broadcast accepting station. The broadcast accepting-station correction command which was analyzed in community / individual information analysis equipment 27 and which is contained in individual information is supplied to CPU36. In CPU36, a broadcast accepting station is corrected based on this command.

[0052] in addition, although it is natural, the function of this remote maintenance is correctable with CPU36 prepared in the broadcast accepting station -- it is restricted. Moreover, it is also possible to perform version up of the application stored in ROM37 in ROM37 in which the application in a broadcast accepting station etc. is stored using the function in which a command is included to the rewritable thing, then the rewritable individual information 15 on a flash ROM etc.

[0053] In addition, although the function made possible by the up link of an application data was explained here about three of the 1st, 2nd, and 3rd above-mentioned examples, it cannot be overemphasized that this is not what is limited to these examples.

[0054]

[Effect of the Invention] As explained above, according to this invention, the field for storing an application data from a broadcast accepting station to the data which uplink viewing-and-listening hysteresis for accounting is prepared. Therefore, there is effectiveness which can uplink various application datas from a broadcast accepting station to a transmitting side.

[0055] Moreover, for that reason, the broadcasting station using this charged broadcast system is effective in the ability to offer various services to the user who is a contractor. The remote maintenance of the mail delivery to other users, broadcasting stations, or program providers etc., direct shopping by broadcast, and a broadcast accepting station etc. goes over this service variably extensively from a user.

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TECHNICAL FIELD

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PRIOR ART

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[0003] The broadcasting format called scramble broadcast is used in such charged broadcast. This scramble broadcast prevents from using a normal image, voice, and data by disturbing the HARASHIN number based on a predetermined approach at the time of transmission to a broadcasting station side, even if persons other than the contractor who made a contract of reception of a broadcasting station and a program receive this broadcast. On the other hand to a contractor, the key which solves this scramble beforehand from a broadcasting station side is given, and use of a normal image, voice, and data of a contractor is enabled by restoring the HARASHIN number disturbed by the scramble using this key. The key for solving this scramble is offered as a decoder prepared between the antenna of a receiving side, and a receiver.

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[0005] A dial-up line is used for transmission of this viewing-and-listening information. That is, the telephone line is connected to an above-mentioned decoder, and it enables it to equip this decoder with the IC card which can memorize viewing-and-listening information. The frequency as which the viewer regarded the program using this decoder is memorized as the point, and this point is accumulated by this IC card whenever it views and listens to a program using this decoder. A viewer chooses the program which wants to equip [ program ] a decoder with this IC card and to see it by operating this decoder.

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EFFECT OF THE INVENTION

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[Effect of the Invention] As explained above, according to this invention, the field for storing an application data from a broadcast accepting station to the data which uplink viewing-and-listening hysteresis for accounting is prepared. Therefore, there is effectiveness which can uplink various application datas from a broadcast accepting station to a transmitting side.

[0055] Moreover, for that reason, the broadcasting station using this charged broadcast system is effective in the ability to offer various services to the user who is a contractor. The remote maintenance of the mail delivery to other users, broadcasting stations, or program providers etc., direct shopping by broadcast, and a broadcast accepting station etc. goes over this service variably extensively from a user.

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[Translation done.]

**\* NOTICES \***

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**TECHNICAL PROBLEM**

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[Problem(s) to be Solved by the Invention] However, a viewer views and listens to charged broadcast in this way, and he was not trying to be transmitted in the former from a receiving side to a transmitting side in a charged broadcast system which uplinks the viewing-and-listening hysteresis information which it is as a result to a transmitting side in data other than the viewing-and-listening information for such accounting. For example, the application data which can realize a certain service made when an addressee side transmits was not transmitted to a transmitting side from a receiving side.

[0008] Therefore, the purpose of this invention is to offer the broadcast accepting station used in the charged broadcast system which can be transmitted to a transmitting side, and this charged broadcast system in an application data while a viewer views and listens to charged broadcast and it uplinks the viewing-and-listening hysteresis information which it is as a result to a transmitting side.

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[Translation done.]

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MEANS

[Means for Solving the Problem] The transmitting system for broadcasting a program by the sending signal to which the scramble was applied by the predetermined approach, in order that this invention may solve the technical problem mentioned above, It has the broadcast accepting station which receives broadcast and solves a scramble by the predetermined approach, and a transmission means to transmit viewing-and-listening hysteresis information from a broadcast accepting station to a transmitting system. It is the charged broadcast system characterized by supposing that it is possible to transmit application datas other than the viewing-and-listening hysteresis information generated with predetermined application software with a transmission means.

[0010] Moreover, a transmission means to transmit information to a transmitting system in order that this invention may solve the technical problem mentioned above, A viewing-and-listening hysteresis acquisition means to acquire viewing-and-listening hysteresis information based on the result of having viewed and listened to a program, The input means which inputs the application data generated with predetermined application software, It has a storage means by which the header information which shows whether viewing-and-listening hysteresis information, the application data, and this application data are memorized is memorized. When header information is not made into the condition that an application data shows what is memorized by the storage means It is the broadcast accepting station characterized by transmitting viewing-and-listening hysteresis information to a transmitting system periodically, and transmitting an application data to a transmitting system at any time if header information is made into the condition that an application data shows what memorized by the storage means.

[0011] Since this invention can transmit the application data based on predetermined application software from a broadcast accepting station besides viewing-and-listening hysteresis information to a transmitting system as mentioned above, it can carry out service based on application software to a receiving side in a transmitting side.

[0012]

[Embodiment of the Invention] Hereafter, one gestalt of implementation of this invention is explained, referring to a drawing. Drawing 1 shows an example of a transmitting system applicable to the charged broadcast system by this invention. In addition, in this invention, since transmission of the application data accompanying the up link of the viewing-and-listening information from an addressee side is the theme, in a transmitting system, the part about viewing-and-listening control is shown mainly, and it omits about the part about a transmission control called the modulator and power amplification in other parts, for example, transmitting system.

[0013] The video signal and sound signal for broadcast which are supplied from broadcast studio (not shown) etc. are digitized and compressed in an encoder 1. This encoder 1 is controlled by the control signal 14 supplied from the program control system 5 according to the program to send out. Although not illustrated, in transmitting sides, such as a broadcasting station, two or more sets of this encoder 1 are installed. From each of the encoder 1 of these two or more bases, a compression digital signal output is supplied to the multiplexing machine 2. Moreover, the control information of the individual information 15 and the common information 16 which are

mentioned later is supplied to the multiplexing machine 2 with it corresponding to the compression digital signal supplied from two or more sets of encoders 1. In the multiplexing machine 2, Time Division Multiplexing of such signals and control information which were supplied is carried out, and they are made into the digital signal 11 of one channel.

[0014] Scramble processing is performed with the scramble key 13 which this digital signal 11 is supplied to a scrambler 3, and is supplied to this scrambler 3 both. Through the transmission-control section which is not illustrated, to transmission routes, such as a broadcasting electric-wave and a transmission medium, the signal to which scramble processing was performed is made into a sending signal, and is sent out.

[0015] The scramble processing in a scrambler 3 is made by adding the bit string of the predetermined die length generated based on the scramble key 13 to a digital signal 11. Although the individual information 15 and the common information 16 are included in the digital signal supplied to this scrambler 3 as mentioned above, to such control information, a scrambler 3 is usually controlled not to perform scramble processing.

[0016] By the way, in such a charged broadcast system, a peculiar individual key is given to the broadcast accepting station which each user who is the contractor of this charged broadcast system owns, respectively. That is, although mentioned later, the signal by which scramble processing was carried out in the transmitting side is decrypted by descrambling based on this individual key in a receiving side. In the transmitting side, the individual key for all broadcast accepting stations is memorized by the scramble control system 6.

[0017] The information on a channel or a program that the user for example, according to individual is making a contract of viewing and listening is included, and the individual information 15 is sent to the broadcast accepting station according to individual. Moreover, you may make it include the information based on the application data which was uplinked through the dial-up line from the broadcast accepting station, and was supplied to viewing-and-listening information gathering processing System 7 mentioned later in this individual information 15. The common information 16 is the information which accompanies a program, and is a signal sent to a program addressee in common. Program information 17, such as a program number generated in the program control system 5, is made into a part of common information 16 by related information sending-out equipment 4, and as mentioned above, it is supplied to the multiplexing machine 2.

[0018] The work-piece key 18 is supplied from the scramble control system 6 to related information sending-out equipment 4. In this related information sending-out equipment 4, the scramble key 13 is enciphered based on the work-piece key 18. This enciphered scramble key 13 is made into a part of common information 16, and is supplied to the multiplexing machine 2. It is enciphered by the individual key of a proper with the scramble control system 6 at each broadcast accepting station, and the work-piece key 18 is made into a part of individual information 15, and is supplied to the multiplexing machine 2.

[0019] The information from viewers, such as a contract demand, is supplied and uplinked from each broadcast accepting station to the viewer information processing system 7, for example through a dial-up line. In the viewer information processing system 7, predetermined processing is performed to the information from this uplinked viewer, and it considers as the contract information 19. This contract information 19 is supplied to the scramble control system 6. In the scramble control system 6, based on this contract information 19, control of the scramble key 13 and the common information 16 is performed, and the transmission control to each user is made.

[0020] Drawing 2 shows an example of the configuration of a broadcast accepting station applicable to the charged broadcast system by this invention. Also in this drawing, modulators, the error correcting code-ized sections, etc. other than the part about viewing-and-listening control are omitted like above-mentioned drawing 1. In this example, this broadcast accepting station consists of a set top box 20 (it is a part for decoding the received signal so that it can display on a television monitor, and usually installed in right above [ of a television monitor ] etc.), and the security module 21 which performs authentication to a user etc. and carries out viewing-and-listening control.

[0021] The sending signal sent out from the transmitting system is supplied to the demultiplexer

23 in a set top box 20 through a transmission line. As mentioned above, in the multiplexing machine 2, Time Division Multiplexing of two or more control information which outputs and corresponds from the encoder 1 installed two or more sets in the transmitting side is carried out, and this sending signal is transmitted. In this demultiplexer 23, this sending signal by which Time Division Multiplexing was carried out is separated for every channel.

[0022] By the way, a user can choose a receiving channel by operating the actuation means (not shown) formed in this set top box 20. That is, the thing of the channel which a demultiplexer 23 is controlled by this actuation and corresponds from the digital signal and control information (common information / individual information) which were separated is chosen and outputted. Furthermore, in this demultiplexer 23, this signal separated for every channel is divided into the control information which consists of the digital signal, the above-mentioned common information, and individual information which are a program.

[0023] The digital signal 30, and the common information / individual information 31 outputted from the demultiplexer 23 is supplied to the community / individual information analysis equipment 27 in a descrambler 24 and the security module 21, respectively. In community / individual information analysis equipment 27, the supplied common information / individual information 31 are analyzed. Control of the descrambling control unit 28 is made based on this analyzed information.

[0024] As mentioned above, this broadcast accepting station has an individual key according to an individual. This individual key is given to the interior from a broadcasting station side to a user with an IC card with memory etc. based on the contents of a contract. This individual key is read by the IC card reading part which this broadcast accepting station does not illustrate.

[0025] The work-piece key with which the control by the descrambling control unit 28 is included in individual information based on this individual key, for example is decrypted. Furthermore, the scramble key contained in common information based on this decrypted work-piece key is decrypted, this decrypted scramble key is made into the viewing-and-listening control information 32, a descrambler 24 is supplied, and a decryption of a digital signal 30 is made. Since a decryption of a scramble key is made with the work-piece key enciphered based on individual information in the transmitting side, viewing-and-listening control is made so that he can watch only the channel and program with which the user made a contract of viewing and listening.

[0026] In this way, the digital signal decoded in the descrambler 24 is decoded so that a decoder 25 may be supplied and the video signal and sound signal which were digitized can display in a monitor, and it is outputted from this set top box 20.

[0027] On the other hand, based on the contract information included in individual information in the common information / individual information analyzed in community / individual information analysis equipment 27 when [ this contract ] it is a pay-per-view contract, the viewing-and-listening hysteresis information 34 is supplied to memory 29, and this supplied viewing-and-listening hysteresis information 34 is memorized. This viewing-and-listening hysteresis information 34 is accumulated in this memory 29, and is transmitted and uplinked to a transmitting system as viewing-and-listening information 33 by the modem 26 in a set top box 20 after fixed period (for example, for one month) progress through a dial-up line.

[0028] In addition, CPU36 and ROM37 are prepared in the security module 21, and control of actuation within these security modules 21, such as storage of the viewing-and-listening hysteresis information 34 to memory 29, is made by these from above-mentioned community / individual information analysis equipment 27. Moreover, various kinds of application software (it is hereafter written as application) for offering various services is stored in ROM37.

[0029] As opposed to the security module 21, the input unit 35 which consists of a keyboard is connected. You may make it prepare a still simpler display etc. in this input unit 35. A user can give directions from this input unit 35 to CPU36, and can perform application stored in ROM. Furthermore, a user can input information to an input unit 35 based on directions of this application, and this inputted information is memorized by memory 29 as an application data.

[0030] In addition, the display based on activation of application is made to the display prepared in the input unit 35. Moreover, information can be displayed on the monitor connected to the set

top box 20 based on delivery and this information from CPU36 to a decoder 25, for example.

[0031] Drawing 3 shows an example of a format of the viewing-and-listening information 33 uplinked. Sequentially from a head, the viewing-and-listening hysteresis header 40, the viewing-and-listening hysteresis information 41, the application header 42, and an application data 43 are arranged. These data are memorized by memory 29.

[0032] The viewing-and-listening hysteresis header 40 and the viewing-and-listening hysteresis information 41 are always included in this viewing-and-listening information 33 uplinked. The viewing-and-listening hysteresis information 34 accumulated in memory 29 is stored in the viewing-and-listening hysteresis information 41. The existence of the application data 43 in this viewing-and-listening information 33 is shown in the application-data header 42. As for an application data 43, for example, one record is made into 6 bytes.

[0033] The viewing-and-listening information 33 stored in memory 2 is always supervised by CPU36. And if the application-data header 42 is in the condition which shows existence of an application data 43 in this viewing-and-listening information 33, this viewing-and-listening information 33 will be immediately uplinked to a transmitting system. As mentioned above, this uplinked viewing-and-listening information 33 is transmitted to a transmitting-side system through a public line, and is supplied to viewing-and-listening information gathering processing System 7.

[0034] In viewing-and-listening information gathering processing System 7, predetermined processing and service are offered based on the contents of the application data 43 contained in this supplied viewing-and-listening information 33. Hereafter, some examples of this processing and service are explained.

[0035] A shopping function is explained as the 1st example. In a transmitting side, the program for shopping which introduces goods and explains the purchase approach is broadcast. In the case of this broadcast, to the common information 16, information on goods is \*\*\*\*(ed) and it is transmitted. When there are goods which want to watch and purchase this broadcast, a viewer operates a broadcast accepting station and performs application actuation of goods purchase.

[0036] When this actuation performs a predetermined key stroke etc. to an input unit 35, the application for the application of goods purchase beforehand stored in ROM37 is started. The actuation menu of this application etc. is displayed on the display prepared in the input unit 35, a monitor, etc. A user operates an input unit 35 according to this displayed menu, and makes a purchase application.

[0037] If application actuation of purchase is performed, this application information and the goods information transmitted from the transmitting side will be memorized to the field of the application data 43 in memory 29. It is made for the application header 42 to have it shown in coincidence that an application data 43 exists. Then, based on this application header 42, the viewing-and-listening information 33 is uplinked by processing of CPU36 through a modem 26.

[0038] This uplinked viewing-and-listening information 33 is supplied to the viewing-and-listening information gathering processing System 7 of a transmitting side. In this viewing-and-listening information gathering processing System 7, predetermined processing is performed based on the application data 43 in this supplied viewing-and-listening information 33. Thereby, purchase information is transmitted to the vender of goods.

[0039] An e-mail function is explained as the 2nd example. According to the charged broadcast system by this invention, a user can distribute e-mail to transmitting sides, such as other users and a broadcasting station, or a program provider.

[0040] A user starts the application for e-mail transmission like the example of above-mentioned shopping, and inputs information, the e-mail text, etc. of the partner who wants to transmit e-mail from an input unit 35. While this inputted information is stored in the field of the application data 43 in memory 29, it is made for the application header 42 to have it shown that an application data 43 exists. If this application header 42 is checked by CPU36, the viewing-and-listening information 33 will be transmitted and uplinked to a transmitting side.

[0041] This viewing-and-listening information 33 is supplied to the viewing-and-listening information gathering System 7 of a transmitting side, and the processing based on this uplinked viewing-and-listening information 33 is made. For example, based on the partner information

included in an application data 43, when partners are other users, it is transmitted with a program through a transmission line to the partner to whom the e-mail text included in this application data 43 corresponds. Since it is enciphered based on an individual key as mentioned above, this information transmitted can distribute e-mail only to a specific partner.

[0042] In addition, the mail to other users is not distributed directly in this way, but may be saved by the transmitting side. In this case, a user starts predetermined application in a broadcast accepting station, and uplinks the viewing-and-listening information 33 to a transmitting side by using directions of e-mail read-out as an application data 43. Then, based on this uplinked viewing-and-listening information 33, the mail saved is transmitted with a program.

[0043] Moreover, not only an alphabetic character but distribution of an image can be performed by storing the decoration frame, the illustration, etc. in ROM37 as a template beforehand, for example, and choosing a desired thing from this template with the input of the e-mail text in the case of this mail delivery.

[0044] The mail delivery point can also be made into a broadcasting station. In this case, a user can perform various information interchange of a claim, a request, an opinion, etc. between broadcasting stations.

[0045] Moreover, the mail delivery point can also be made into the provider of a program. In this case, a user performs a mail delivery to the provider of the program which is a predetermined approach and corresponds during reception of a program. Moreover, even if it is not [ program ] under televising, a mail delivery can be performed to the program provider by specifying a program provider by the predetermined approach. Thereby, various information interchange of the claim to a program provider, a request, an opinion, etc. can be performed.

[0046] Furthermore, information about the application to the prize currently made for example, in the program or its success-in-an-election result etc. can be exchanged by distributing e-mail to a program provider. moreover, a cook -- it is supposed that it is possible to perform reservation, purchase, etc. of reservation of the restaurant introduced in the group etc., the application of the tour introduced in the travel program, the purchase of the betting ticket in a horse race program, and various tickets.

[0047] Moreover, in this e-mail function, the mail delivery to a user is not limited to a method of using a broadcasting electric-wave like above-mentioned explanation. For example, although e-mail is transmitted by the user from a user with an application data 43 to a transmitting side in the mail delivery to other users, mailing, delivery, etc. can be used to other users of a distribution place. Moreover, network communication, a telephone, facsimile, etc. can also be used. This is not restricted to the e-mail distribution to other users by the user, but can be applied also to the example of the e-mail distribution to a broadcasting station and the program provider from a user from an above-mentioned user. That is, answerback of the mail distributed from the user to the broadcasting station or the program provider in these cases is made with the above means.

[0048] Moreover, this service is applicable only also to the broadcast accompanied by an image, for example, a teletext etc.

[0049] As the 3rd example, the function of a broadcast accepting station of maintenance of remote \*\* is explained from a transmitting side. When an error occurs in the error 25 with a broadcast accepting station, for example, a decoder, the error message based on this generated error is made to memorize to the predetermined field of memory 29, and it is made to accumulate. If the number of this accumulated error message turns into more than fixed numbers or directions of maintenance are made from a user to a broadcast accepting station, while storing this accumulated error message in the field of an application data 43, it is shown that an application data 43 exists the application header 42.

[0050] The viewing-and-listening information 33 in which this error message was stored as an application data 43 is uplinked to a transmitting side. This uplinked viewing-and-listening information 33 is supplied to viewing-and-listening information gathering processing System 7. In viewing-and-listening information gathering processing System 7, the analysis of the condition of a broadcast accepting station based on the error message contained in this viewing-and-

listening information 33 is made. When fault is in the broadcast accepting station which transmitted this viewing-and-listening information 33, a command which corrects this fault in viewing-and-listening information gathering processing System 7 is published. This command is supplied to the scramble control system 6, is a predetermined approach, with is included to the individual information 15.

[0051] The individual information 15 containing this broadcast accepting-station correction command is transmitted through a transmission line with a program, and is supplied to a broadcast accepting station. In the demultiplexer 23 of a set top box 20, it dissociates with a digital signal 30 and common information / individual information 31 is supplied to community / individual information analysis equipment 27. As mentioned above, since it is enciphered by the broadcast accepting station with the individual key of a proper, this individual information 15 is decipherable only in the corresponding broadcast accepting station. The broadcast accepting-station correction command which was analyzed in community / individual information analysis equipment 27 and which is contained in individual information is supplied to CPU36. In CPU36, a broadcast accepting station is corrected based on this command.

[0052] in addition, although it is natural, the function of this remote maintenance is correctable with CPU36 prepared in the broadcast accepting station -- it is restricted. Moreover, it is also possible to perform version up of the application stored in ROM37 in ROM37 in which the application in a broadcast accepting station etc. is stored using the function in which a command is included to the rewritable thing, then the rewritable individual information 15 on a flash ROM etc.

[0053] In addition, although the function made possible by the up link of an application data was explained here about three of the 1st, 2nd, and 3rd above-mentioned examples, it cannot be overemphasized that this is not what is limited to these examples.

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[Translation done.]

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing an example of the transmitting structure of a system applicable to this invention.

[Drawing 2] It is the block diagram showing an example of the configuration of a broadcast accepting station applicable to this invention.

[Drawing 3] It is the approximate line Fig. showing an example of a format of the viewing-and-listening information containing an application data.

[Description of Notations]

3 ... a scrambler and 6 ... a scramble control system and 7 ... a viewing-and-listening information gathering processing system and 11 ... a compression digital signal and 13 ... a scramble key and 15 ... individual information and 16 ... common information and 18 ... a work-piece key and 20 ... a set top box and 21 ... a security module and 27 ... community / individual information analysis equipment, and 29 ... memory and 33 -- ... viewing-and-listening information and 35 -- ... -- an input unit and 36 -- ... -- CPU and 42 ... -- an application header and 43 ... -- an application data

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[Translation done.]

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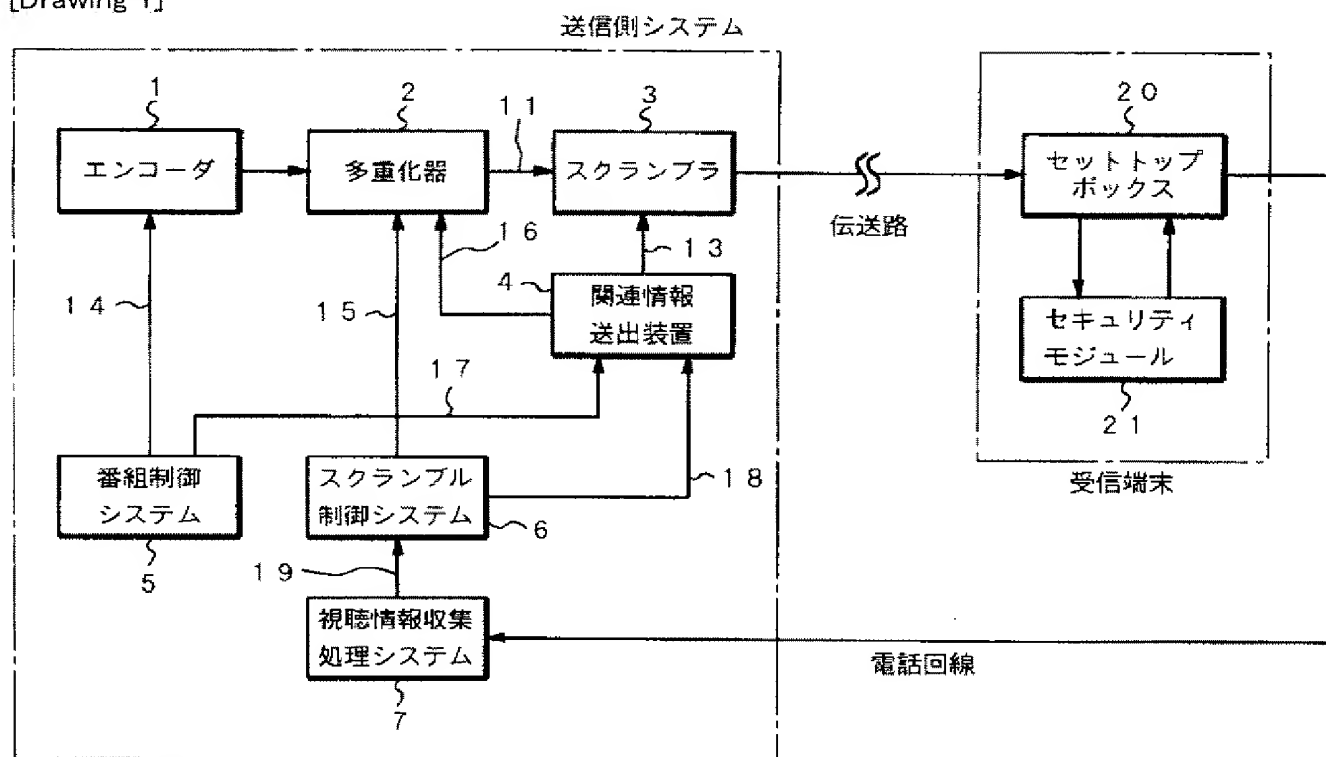
1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.

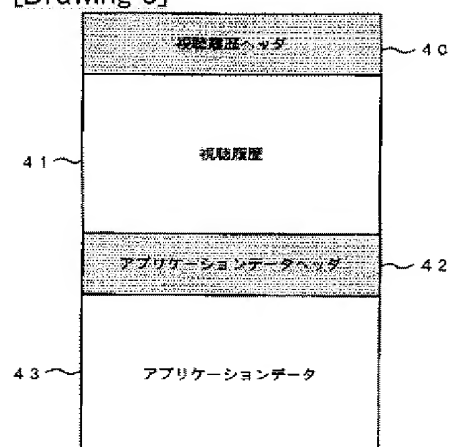
3.In the drawings, any words are not translated.

## DRAWINGS

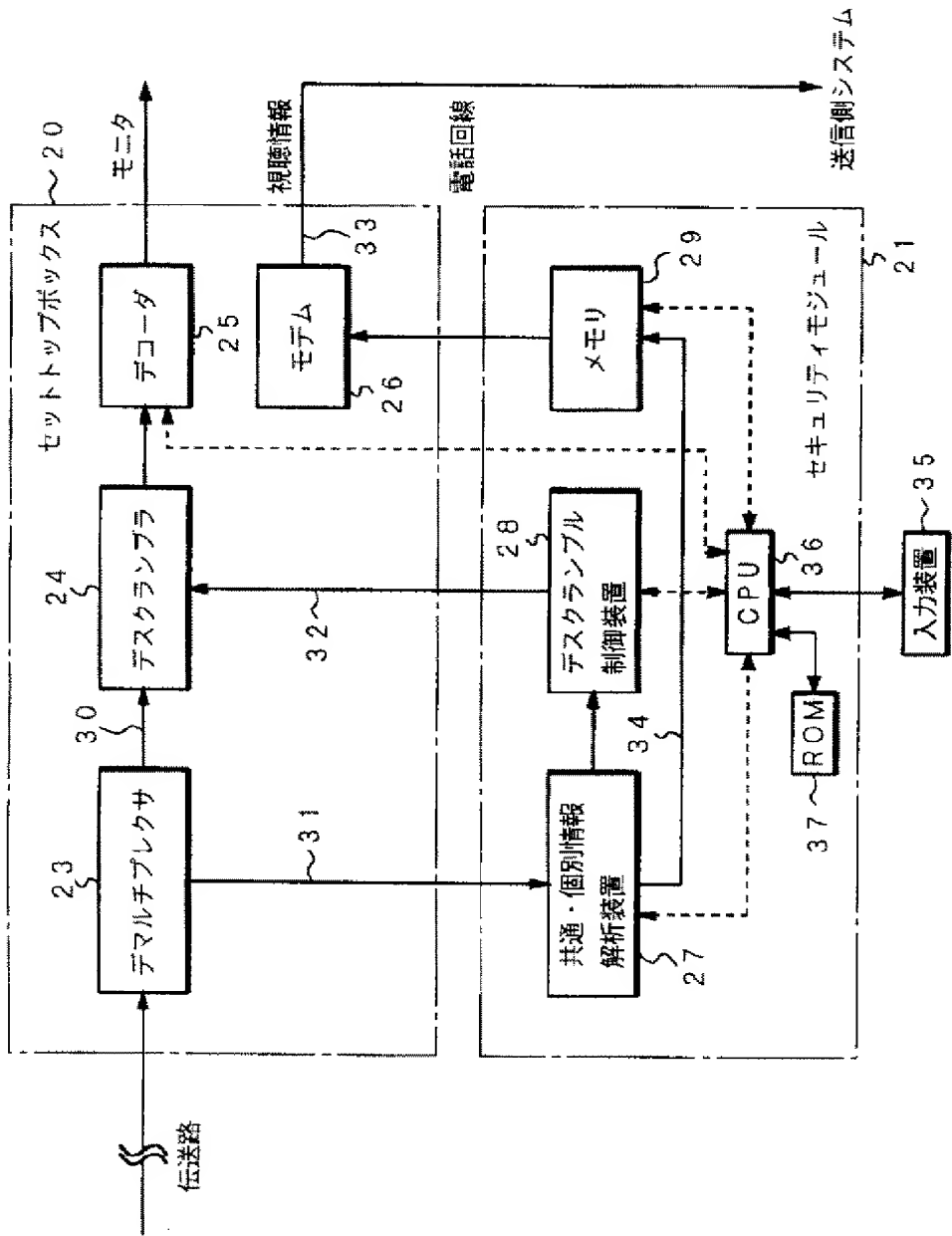
[Drawing 1]



[Drawing 3]



[Drawing 2]



[Translation done.]

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## CORRECTION OR AMENDMENT

[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law

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[Procedure revision]

[Filing Date] March 20, Heisei 15 (2003. 3.20)

[Procedure amendment 1]

[Document to be Amended] Specification

[Item(s) to be Amended] The name of invention

[Method of Amendment] Modification

[Proposed Amendment]

[Title of the Invention] A charged broadcast system and an approach, a broadcast accepting station, an approach, a viewing-and-listening information gathering system, and an approach

[Procedure amendment 2]

[Document to be Amended] Specification

[Item(s) to be Amended] Claim

[Method of Amendment] Modification

[Proposed Amendment]

[Claim(s)]

[Claim 1] In the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis,

The transmitting system for broadcasting a program by the sending signal to which the scramble was applied by the predetermined approach,

The broadcast accepting station which receives the above-mentioned broadcast and solves the above-mentioned scramble by the predetermined approach,

It has a transmission means to transmit viewing-and-listening hysteresis information from the above-mentioned broadcast accepting station to the above-mentioned transmitting system,

The charged broadcast system characterized by supposing that it is possible to transmit the application data generated with predetermined application software with the above-mentioned transmission means.

[Claim 2] In a charged transmitting system according to claim 1,

The application data transmitted to the above-mentioned transmitting system is a charged transmitting system characterized by being the data relevant to the program broadcast, or data which becomes independent.

[Claim 3] In the charged broadcast approach charged according to a viewer's viewing-and-listening hysteresis,

The charged broadcast approach of carrying out having carried out it having been possible in transmitting the application data which broadcast the program by the sending signal to which the scramble was applied by the predetermined approach, received the above-mentioned broadcast with the broadcast accepting station, solved the above-mentioned scramble by the predetermined approach, was transmitted by the transmission means in the viewing-and-listening hysteresis information according to the above-mentioned reception, and was generated with predetermined application software by the above-mentioned transmission means as the description.

[Claim 4] In the broadcast accepting station used by the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis,

A transmission means to transmit information to a transmitting system,

A viewing-and-listening hysteresis acquisition means to acquire viewing-and-listening hysteresis information based on the result of having viewed and listened to a program,

The input means which inputs the application data generated with predetermined application software,

It has a storage means by which the header information which shows whether the above-mentioned viewing-and-listening hysteresis information, the above-mentioned application data, and this application data are memorized is memorized,

When the above-mentioned header information is not made into the condition that the above-mentioned application data shows what is memorized by the above-mentioned storage means, the above-mentioned viewing-and-listening hysteresis information is periodically transmitted to the above-mentioned transmitting system,

The broadcast accepting station which will be characterized by transmitting the above-mentioned application data to the above-mentioned transmitting system at any time if the above-mentioned header information is made into the condition that the above-mentioned application data shows what is memorized by the above-mentioned storage means.

[Claim 5] In a broadcast accepting station according to claim 4,

The application data transmitted to the above-mentioned information gathering system is a broadcast accepting station characterized by being the data relevant to the program broadcast, or data which becomes independent.

[Claim 6] In the broadcast receiving approach used by the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis,

The step of transmission which transmits information to a transmitting system,

The step of the viewing-and-listening hysteresis acquisition which acquires viewing-and-listening hysteresis information based on the result of having viewed and listened to a program,

The step of an input which inputs the application data generated with predetermined application software,

The step of the storage the header information which shows whether the above-mentioned viewing-and-listening hysteresis information, the above-mentioned application data, and this application data are memorized is remembered to be by the storage means,

The broadcast receiving approach of carrying out having the step of transmission the above-mentioned viewing-and-listening hysteresis information is periodically transmitted to the above-mentioned transmitting system, and will transmit the above-mentioned application data to the above-mentioned transmitting system at any time if the above-mentioned header information is made into the condition which shows being memorized by the above-mentioned storage means in

the above-mentioned application data when the above-mentioned header information is not made into the condition which shows being memorized by the above-mentioned storage means in the above-mentioned application data as the description.

[Claim 7] In the viewing-and-listening information gathering system which collects the viewing-and-listening information according to broadcast by the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis,

The viewing-and-listening hysteresis information transmitted from the broadcast accepting station which receives the broadcast transmitted from the transmitting system and solves the above-mentioned scramble by the predetermined approach by the sending signal to which the scramble was applied by the predetermined approach, and the application data which was generated with the predetermined application software on the above-mentioned broadcast accepting station, and was transmitted are supplied,

The viewing-and-listening information gathering system characterized by performing predetermined processing based on the contents of the supplied above-mentioned application data.

[Claim 8] In a viewing-and-listening information gathering system according to claim 7,

The viewing-and-listening information gathering system characterized by transmitting the information according to the contents of the above-mentioned application data to the above-mentioned broadcast accepting station by the above-mentioned predetermined processing.

[Claim 9] In a viewing-and-listening information gathering system according to claim 8,

The application data transmitted to the above-mentioned information gathering system is a viewing-and-listening information gathering system characterized by being the data relevant to the program broadcast, or data which becomes independent.

[Claim 10] In the viewing-and-listening information gathering approach of collecting the viewing-and-listening information according to broadcast by the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis,

The viewing-and-listening hysteresis information transmitted from the broadcast accepting station which receives the broadcast transmitted from the transmitting system and solves the above-mentioned scramble by the predetermined approach by the sending signal to which the scramble was applied by the predetermined approach, and the application data which was generated with the predetermined application software on the above-mentioned broadcast accepting station, and was transmitted are supplied,

The viewing-and-listening information gathering approach characterized by performing predetermined processing based on the contents of the supplied above-mentioned application data.

[Procedure amendment 3]

[Document to be Amended] Specification

[Item(s) to be Amended] 0001

[Method of Amendment] Modification

[Proposed Amendment]

[0001]

[Field of the Invention] This invention relates to a charged broadcast system which uplinks viewing-and-listening information from a receiving side to a transmitting side and an approach, a broadcast accepting station, an approach, a viewing-and-listening information gathering system, and an approach.

[Procedure amendment 4]

[Document to be Amended] Specification

[Item(s) to be Amended] 0008

[Method of Amendment] Modification

[Proposed Amendment]

[0008] Therefore, the purpose of this invention is about an application data to offer the charged broadcast system which can be transmitted to a transmitting side and an approach, a broadcast accepting station, an approach, a viewing-and-listening information gathering system, and an approach while a viewer views and listens to charged broadcast and it uplinks the viewing-and-

listening hysteresis information which it is as a result to a transmitting side.

[Procedure amendment 5]

[Document to be Amended] Specification

[Item(s) to be Amended] 0009

[Method of Amendment] Modification

[Proposed Amendment]

[0009]

[Means for Solving the Problem] The transmitting system for broadcasting a program by the sending signal to which the scramble was applied by the predetermined approach, in order that this invention may solve the technical problem mentioned above, It has the broadcast accepting station which receives broadcast and solves a scramble by the predetermined approach, and a transmission means to transmit viewing-and-listening hysteresis information from a broadcast accepting station to a transmitting system. It is the charged broadcast system characterized by supposing that it is possible to transmit the application data generated with predetermined application software with a transmission means.

[Procedure amendment 6]

[Document to be Amended] Specification

[Item(s) to be Amended] 0010

[Method of Amendment] Modification

[Proposed Amendment]

[0010] Moreover, this invention is set to the charged broadcast approach charged according to a viewer's viewing-and-listening hysteresis, in order to solve the technical problem mentioned above. A program is broadcast by the sending signal to which the scramble was applied by the predetermined approach. A broadcast accepting station receives the above-mentioned broadcast, and the above-mentioned scramble is solved by the predetermined approach. It is the charged broadcast approach characterized by supposing that it is possible to transmit the application data which was transmitted by the transmission means and generated the viewing-and-listening hysteresis information according to the above-mentioned reception with predetermined application software with the above-mentioned transmission means. Moreover, a transmission means by which this invention transmits information to a transmitting system, A viewing-and-listening hysteresis acquisition means to acquire viewing-and-listening hysteresis information based on the result of having viewed and listened to a program, The input means which inputs the application data generated with predetermined application software. It has a storage means by which the header information which shows whether viewing-and-listening hysteresis information, the application data, and this application data are memorized is memorized. When header information is not made into the condition that an application data shows what is memorized by the storage means It is the broadcast accepting station characterized by transmitting viewing-and-listening hysteresis information to a transmitting system periodically, and transmitting an application data to a transmitting system at any time if header information is made into the condition that an application data shows what memorized by the storage means. Moreover, this invention is the broadcast receiving approach used by the charged broadcast system which charges the broadcast receiving approach according to a viewer's viewing-and-listening hysteresis characterized by providing the following. The step of transmission which transmits information to a transmitting system The step of the viewing-and-listening hysteresis acquisition which acquires viewing-and-listening hysteresis information based on the result of having viewed and listened to a program The step of an input which inputs the application data generated with predetermined application software The step of the storage the header information which shows whether the above-mentioned viewing-and-listening hysteresis information, the above-mentioned application data, and this application data are memorized is remembered to be by the storage means, When the above-mentioned header information is not made into the condition that the above-mentioned application data shows what is memorized by the above-mentioned storage means The step of transmission which the above-mentioned viewing-and-listening hysteresis information is periodically transmitted to the above-mentioned transmitting system, and will transmit the above-mentioned application data to

the above-mentioned transmitting system at any time if the above-mentioned header information is made into the condition that the above-mentioned application data shows what is memorized by the above-mentioned storage means Moreover, this invention is set to the viewing-and-listening information gathering system which collects the viewing-and-listening information according to broadcast by the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis. The viewing-and-listening hysteresis information transmitted from the broadcast accepting station which receives the broadcast transmitted from the transmitting system and solves the above-mentioned scramble by the predetermined approach by the sending signal to which the scramble was applied by the predetermined approach, The application data which was generated with the predetermined application software on the above-mentioned broadcast accepting station, and was transmitted is the viewing-and-listening information gathering system characterized by being supplied and performing predetermined processing based on the contents of the supplied above-mentioned application data. Moreover, this invention is set to the viewing-and-listening information gathering approach of collecting the viewing-and-listening information according to broadcast by the charged broadcast system charged according to a viewer's viewing-and-listening hysteresis. The viewing-and-listening hysteresis information transmitted from the broadcast accepting station which receives the broadcast transmitted from the transmitting system and solves the above-mentioned scramble by the predetermined approach by the sending signal to which the scramble was applied by the predetermined approach, The application data which was generated with the predetermined application software on the above-mentioned broadcast accepting station, and was transmitted is the viewing-and-listening information gathering approach characterized by being supplied and performing predetermined processing based on the contents of the supplied above-mentioned application data.

[Procedure amendment 7]

[Document to be Amended] Specification

[Item(s) to be Amended] 0033

[Method of Amendment] Modification

[Proposed Amendment]

[0033] The viewing-and-listening information 33 stored in memory 29 is always supervised by CPU36. And if the application-data header 42 is in the condition which shows existence of an application data 43 in this viewing-and-listening information 33, this viewing-and-listening information 33 will be immediately uplinked to a transmitting system. As mentioned above, this uplinked viewing-and-listening information 33 is transmitted to a transmitting-side system through a public line, and is supplied to viewing-and-listening information gathering processing System 7.

[Translation done.]